

Vaccines under Fire

When Suzanne Walther, 35, of Murfreesboro, TN, was pregnant with her third child, a well-meaning friend who is a proponent of holistic medicine voiced her concern that vaccines are risky and ineffective. Though both of Suzanne's older children, now 8 and 4, were fully immunized, she started to doubt whether routine vaccines work and to wonder if they carry unnecessary risks.

So she began questioning her pediatrician, obstetrician, and family doctor. None could supply the answers she was looking for; they simply handed her the standard information sheets about vaccines. "I felt that I had to be a better-informed parent to make an educated medical decision for my child," recalls Walther, a former medical technologist.

She used the Internet and the local library to search for more information. By the time Mary Catherine was born on July 19, 1999, Walther and her husband, Leonard, still hadn't resolved their concerns. They continued to gather information and vowed to make a decision by their daughter's first birthday, even though children usually get a battery of vaccines in their first year of life.

One week before she turned 1, Mary Catherine came down with meningitis and was admitted to Vanderbilt University Medical Center in Nashville. *Haemophilus influenzae* type B (Hib) was found to be the cause. Had she received the Hib vaccine, as recommended by the American Academy of Pediatrics (AAP), she would have been protected from this illness. "After a physician told me that Hib meningitis could cause death, paralysis, seizures, hearing impairment, learning disorders, and more, I started feeling angry," Walther recalls. "I was angry at my friend. I was mad at all the doctors who were not able to answer my questions. And I was mad at myself for not getting more reliable information before my daughter was born."

Mary Catherine remained in the hospital for 10 days, where she received antibiotics and blood transfusions. Walther spoke with more doctors about her concerns and conducted research in Vanderbilt's library. She finally got some of the answers she craved. By the time their little girl left the hospital, fully recovered and complication-free, the Walthers had decided to give her the full schedule of vaccines. She'll be up to date by July, when she turns 2.

Fueling Fears Among Parents

Many parents are second-guessing the necessity of childhood immunizations, their apprehension triggered largely by groups opposed to vaccines as well as by the countless horror stories disseminated on the Internet. Although vaccination rates have never been higher, some parents wonder whether inoculations do more harm than good. In fact, a new survey by the National Network for Immunization Information found that 25% of parents believe that their child's immune system could become weakened as a result of being given too many vaccines, and 23% think that kids get more vaccines than are good for them.

"Parents are becoming better informed about many things, and because information is readily available in all different forms, it's helped them become more interested in health and self-advocacy," says Bruce Gellin, M.D., M.P.H., an assistant professor in the preventive medicine department at Vanderbilt and executive director of NNII, a partnership formed three years ago by the AAP, the American Nurses' Association, the Infectious Disease Society of America, and the Pediatric Infectious Disease Society. "More parents ask more sophisticated questions about vaccines. There's a lot of information available, but not all of it is accurate." Indeed, rumors about specific vaccines abound, all disputed by most doctors. For instance, there's the belief that the hepatitis B vaccine causes SIDS, that the DTP vaccine (for diphtheria, tetanus, and pertussis) is linked with brain damage, that the MMR vaccine (for measles, mumps, and rubella) is linked with autism. This last point has been rejected most recently by researchers at the California Department of Health Services, who found no correlation between the increased rates of vaccination and autism.

Factor in the notion that immunizations in general can be blamed for the rise in childhood asthma, diabetes, and other chronic diseases, and it's no wonder that growing skepticism about vaccines has many physicians worried. The childhood immunization program is considered one of the greatest medical successes of the 20th century. "We've taken diseases that routinely killed or harmed children and either completely or virtually eliminated them," says Paul Offit, M.D., chief of infectious diseases at Children's Hospital of Philadelphia and coauthor of *Vaccines: What Every Parent Should Know*.

A Medical Mission

Pediatricians are concerned that fears about vaccine safety will further erode support for immunization, result in a decreased vaccination rate, and, ultimately, lead to outbreaks of these diseases. "The antivaccine groups keep putting out literature and showing up on television, claiming that vaccines are dangerous. We have decades of data showing that vaccines are safe and effective, but physicians haven't been as good about getting the word out about the benefits," says David Greenberg, M.D., an associate professor of pediatrics at the University of Pittsburgh School of Medicine. Among the sticking points in many parents' minds are those frightening stories of outcomes supposedly associated with a particular vaccination. Experts say there is no scientific basis for most of their worries. In fact, they say, parents' concerns about vaccines stem in part from the very success of the vaccine program. "These diseases are totally unfamiliar to today's parents, as well as to younger healthcare providers, so instead of being concerned about the diseases, they shift their focus to the vaccines," explains Dr. Gellin. "Because the diseases are essentially unknown, the vaccines are not fully understood."

And that is where the medical community comes in, joining together to create a dialogue based on reliable vaccine information. "NNII was formed because the voice of the physician seemed to be lost in this discussion," says Dr. Gellin. "We want to create a partnership between healthcare providers and parents on this issue." A similar organization was launched earlier this year: National Partnership for Immunization (NPI, www.partnersforimmunization.org), funded in part by the Centers for Disease Control and Prevention in Atlanta. NPI's mission is to encourage greater acceptance and use of

immunizations.

What some parents may not know is how susceptible children are to even rare diseases. "None of them is more than a plane ride away," says Samuel Katz, M.D., professor and chairman emeritus of the department of pediatrics at Duke University School of Medicine in Durham, NC. For example, "there's polio in Africa and diphtheria in the former Soviet Union." When these outbreaks occur around the globe, the diseases can easily be imported to the U.S.

Even here, many of the viruses or bacteria that cause diseases like whooping cough (pertussis) are still circulating. "Vaccines are so critically important because if 10% to 15% of the population don't get immunized, then the diseases return and cause outbreaks," says Dr. Greenberg. Indeed, in a recent study led by the CDC, researchers investigated the risks of measles and pertussis among kids ages 3 to 18 in Colorado from 1987 to 1998 and found that those whose parents chose not to immunize them were 22 times more likely to contract measles and six times more likely to get pertussis than vaccinated kids. Among young children, who are especially vulnerable to these diseases, unvaccinated kids in daycare and primary school were 62 times more likely to get measles and 16 times more likely to develop pertussis than those who'd received their shots. Meanwhile, in the United Kingdom, some parents have brought their children to "measles parties," with the goal of exposing them to measles so they wouldn't have to receive the vaccine, says Dr. Gellin. What's happened is that vaccine rates for measles in the U.K. have decreased and there's been a resurgence of cases and an increase in deaths from the disease, says Cody Meissner, M.D., chief of the pediatric infectious disease service at the New England Medical Center in Boston. "It's quite tragic."

Selective Vaccination

In some cases, parents won't think twice about having their children immunized against serious diseases such as diphtheria, tetanus, polio, and measles, but they will question the necessity of others. Johanna Cowie, 39, of Sandy Spring, MD, decided against giving her son Max, now 5, the varicella (chicken pox) vaccine because she felt that the vaccine was more of an unknown than the disease is. "I tend to believe in vaccines, but I wanted to wait with this one since it hasn't been around that long," she explains. "Besides, I had chicken pox as a kid, and I don't remember it being that horrible. I figure if Max doesn't get chicken pox by the time he's 10 or 12, he could get the vaccine then and it would carry him through adolescence, when chicken pox becomes more of a problem. My pediatrician thought that seemed quite reasonable." Selectively vaccinating a child gets mixed reactions from pediatricians. "I see kids who have very serious consequences of varicella, and many parents falsely think that chicken pox is a mild disease," says Neal Halsey, M.D., director of the Institute for Vaccine Safety at Johns Hopkins University in Baltimore. "It can be, but it can also be a serious disease with potentially life-threatening complications, and we can't predict who will have them. But we do know that the risk of developing complications from chicken pox is 1,000 times greater than the risk of having a bad reaction to the vaccine," he says.

Nevertheless, some pediatricians, like Cowie's, are perfectly comfortable with a child's

forgoing the newer varicella or pneumococcal vaccines even though they are recommended by the AAP. Many doctors are less understanding, however, about a parent's desire to skip the older, well-established vaccines -- or to keep a child from receiving all doses of a particular vaccine. "The last thing you want is for a child to get two doses of a four-dose series," Dr. Gellin says, "because that means she isn't adequately protected."

While some parents resent state mandates that require them to vaccinate their kids before entering daycare or school, it's a matter of balancing individual rights against the greater good, says Kathryn M. Edwards, M.D., professor of pediatrics at Vanderbilt University. "What if not immunizing your child exposes another child to a disease that could be serious? We can assume risks for our own children, but I don't think it's fair to assume risks for other children. That becomes a much harder public health issue."

In some instances, doctors do support withholding certain live vaccines -- such as MMR and varicella -- from children who are immunocompromised (because they have leukemia, for example). "And in rare cases, children develop a serious reaction to the first vaccine dose and can't get subsequent ones," says Dr. Halsey. Exemptions for medical reasons are allowed in all states. In 48 states, parents can withhold vaccines for religious reasons; 17 states permit philosophical exemptions, according to the Albert B. Sabin Vaccine Institute in Washington, DC. For a religious exemption, some states require a signed statement from parents, while others require one from a clergy member, notes John Clymer, the institute's vice president of external affairs. For philosophical exemptions, parents generally must file a letter with the school system, explaining why vaccines are against their beliefs. And if physicians and parents don't see eye to eye? Sometimes they're at an impasse. Take the rotavirus vaccine as a case in point: The vaccine went through the proper testing and approval process, was found to be safe based on the data, and was approved. Only when it was used in a larger sample of children were rare complications found, which is when it was pulled from the market. While doctors see this as a reassuring example of how the system works, parents don't. In fact, this debacle often fuels parents' fears of what might be discovered in the future about other vaccines.

Education Efforts

So how much should doctors try to persuade reluctant parents to vaccinate their kids? Some pediatricians say that sometimes the only choice is to agree to disagree. "We should talk to parents and give them responsible information," says Dr. Offit. "If they're still uncomfortable vaccinating, then so be it. Physicians have to be willing to play it the parents' way for a while. They shouldn't dismiss those patients from their practice. When you dismiss them, they're gone and you have no chance of vaccinating their child."

Doctors hope that the immunization rate will continue to rise despite some parents' suspicions. In the meantime, researchers are developing new delivery systems -- such as nasal sprays and edible vaccines -- and new combinations of injectable vaccines, which will likely mean fewer needle-sticks for kids. Only time will tell whether that will be enough to allay all the concerns, but for now, more and more physicians are prepared to address parents' worries. They're coming together through forums like the NNII and NPI

to brainstorm and update parents on the latest research. They're arming themselves with facts. And they're ready to refer parents to reputable sources of additional information.

In fact, in a recent survey of AAP members, 76% of doctors reported that within the previous three months, no parents had brought an immunization issue to them that they couldn't adequately address. "All we can do as healthcare providers is try to educate parents about these vaccines, reassure them about their safety, and remind them that the diseases we're trying to protect their children against are very serious," says Dr. Greenberg. This way, parents will be able to make better-informed decisions - which is precisely what doctors want too.